

PATENT

3215-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CUSTOMER NO. 26645

In re Application of: James D. Burrington

Serial No.: 10/603,644

Examiner: McAvoy, Ellen M.

Filed: June 25, 2003

Group Art Unit: 1764

Title: Gels that Reduce Soot and/or Emissions from Engines

Hon. Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia

Sir:

DECLARATION UNDER 37 C.F.R. §1.132

I, James Burrington, declare as follows:

The work of the present patent application is my own work and that I am a co-inventor of the patent application 10/603,644 and am familiar with the reference which was used in the rejection thereof.

I am also a co-inventor of the granted US Patent 6,843,916 which discloses lubricant additive gels (column 1, line 44) having an ashless dispersant, an overbased detergent (column 4, lines 20-25 and 29-32) and oil-soluble antioxidants (column 7, lines 22-33).

The subject matter of the granted patent is my own work and I conceived and invented the subject matter in the earlier application.

I further declare that all statements herein made of my own knowledge are true and all statements herein made on information and belief are believed to be true. I understand that willful false statements and the like are punishable by fine or imprisonment or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

The gel compositions claimed in the pending application are non-liquid materials which do not flow, do not have measurable viscosities, and which cannot be pumped, blended or handled as liquid concentrates.

I certify that this correspondence is being filed electronically via EFS with the U.S. Patent & Trademark Office, Mail Stop Patent Application, Commissioner for Patents, Alexandria, Virginia, on

on 5-30-06
Date of Deposit

By:

Nancy S. Dedek
Nancy S. Dedek

Specifically, the gel compositions claimed are semi-solids which do not liquefy or melt when heated and which cannot be tested for dynamic viscosity. The firmness of the gel is impacted by the gel formulation and in fact cone pen analysis is a key means used to evaluate the firmness of the gels produced. Any composition that results in a liquid-like material that flows or melts at temperatures representative of those seen in operating engine lubricating systems, would not be considered a gel composition. Gels are solid-like, non-liquid materials.

Regarding the processes and applications described in the pending patent application, the solid-like nature of the claimed gel compositions are critical to their performance and feasibility. Using non-solid, liquid compositions, like those described in Higton, et al., would not allow our processes to be carried out. The liquid composition would not remain intact when contacted with the lubricating oil, but would rather disperse and dissolve into the oil over a relatively short period of time. In contrast, the gel compositions claimed in the current application, remain intact over a much longer period of time during the operation of the engine and enable various components of the gel to be released over this much longer period of time. This ability of the claimed gel compositions thereby improves the performance of the engine in ways not possible with liquid compositions, as demonstrated by the examples in the specification of the pending application.

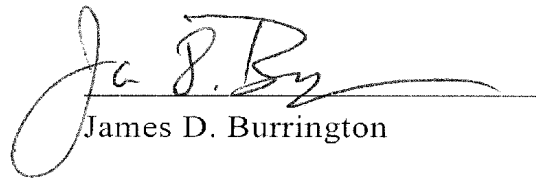
The Examples listed in Table 1 of the Higton, et al. reference are presented to show how some liquid additive packages that would otherwise show some increase in viscosity can be controlled in order to reduce this increase. The reference concedes that there are some compositions that will still experience a viscosity increase to the point that they are too thick to process as additive concentrates. The viscosity values listed in Table I range from about 700 cSt to about 31,000 cSt at 100°C with one control included that has a viscosity listed as >100,000. All of these examples, excluding the control, are still liquid concentrates which can be blended and pumped, although some would be more difficult to handle than others. All of these examples are still liquids and are not gels compositions. The control, which does not represent the invention in Higton, et al, demonstrates how some additives, which are still liquids, are not suitable for use as additive concentrates. The control is listed with a viscosity of >100,000, which while high, is still a measurable viscosity and indicates the composition, while very thick, is still a liquid. The gel compositions we are claiming in the current application do not have measurable viscosities, because of their semi-solid nature. Gel compositions in a table like this would be best described with a NA for “non-

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applicable” listed as the result for a viscosity determination. Higton, et al. describes liquid compositions and a means for addressing potential viscosity increases seen in some compositions. The reference does not demonstrate and does not disclose an understanding of how far these viscosity increases can actually go and does not provide any insight on how to maximize these viscosity increases to the point that the material converts from a liquid to a solid. The reference also indicates no uses or applications for such materials and is in fact completely focused on reducing the relatively small viscosity increases in liquid additive concentrates that make liquid additive concentrate handling more difficult.

The gels we are claiming are semi-solids, and so are of such a nature that they cannot be pumped or blended, they cannot be handled as liquids, and they cannot be used as conventional additive packages.

5/26/06 (date)


James D. Burrington